REMARKS

Claims 5-13 and 22 are pending in this application. Claims 1-4 and 14-21 have been canceled.

This application is a Continuation of U.S. Application Serial No. 09/551,566, filed on April 18, 2000, now allowed, which is a Divisional of U.S. Application Serial No. 08/941,720, filed October 1, 1997, now U.S. Patent No. 6,143,486, issued November 7, 2000.

Applicants submit that the present application is ready for examination on the merits. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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IN THE CLAIMS

Please cancel Claims 1-4 and 14-21.

Please amend the following claims.

--5. (Amended) An optical information recording medium having a multilayer structure comprising at least a lower protective layer, a phase-change type optical recording layer, an upper protective layer and a reflective layer, on a substrate, for overwrite recording by modulation of light intensity of at least two levels, so that a crystalline state is an unrecorded state, and an amorphous state is a recorded state, wherein the phasechange type optical recording layer has a composition of $[Mb_z]Zn_zGe_y(Sb_xTe_{1-x})_{1-y-z}$, where [Mb is at least one member selected from Ag and Zn, $0.60 \leqq x \leqq 0.85$, $0.01 \leqq y \leqq 0.20$, and $0.01 \leqq z \leqq 0.15$] $0.65 \leq x \leq 0.85$, $0.01 \leq y \leq 0.20$, and $0.01 \leq x \leq 0.15$ and comprises as the main component, an SbTe alloy of the SbTe eutectic composition or a composition including an excess amount of Sb over the SbTe eutectic composition.

9. (Amended) The optical information recording medium according to Claim [1, 2 or] 5, wherein to carry out an initialization operation by irradiating an energy beam for crystallization, after forming the phase-change type optical recording layer, the recording layer is locally melted and crystallized during resolidification.

10. (Amended) The optical information recording medium according to Claim [1, 2 [illegible] modulation recording and erasing

inter-mark portions, erasing power Pe capable of recrystallizing amorphous mark portions is

applied, and to form mark portions having a length nT where T is a clock period and n is an integer of at least 2, writing power Pw and bias power Pb are applied in such a manner that when the time for applying writing power Pw is represented by $\alpha_1 T$, $\alpha_2 T$, ..., $\alpha_m T$, and the time for applying bias power Pb is represented by $\beta_1 T$, $\beta_2 T$, ..., $\beta_m T$, the laser application period is divided into m pulses in a sequence of $\alpha_1 T$, $\beta_1 T$, $\alpha_2 T$, $\beta_2 T$, ..., $\alpha_m T$, $\beta_m T$ to satisfy the following formulae:

when $2 \leqq i \leqq m-1$, $\alpha_i \leqq \beta_i$;

$m=n-k$, where k is an integer of $0 \leqq k \leqq 2$, provided that $n_{min}-k \geqq 1$, where n_{min} is the mininum value of n; and

$\alpha_1+\beta_1+ \ldots +\alpha_m+\beta_m = n-j$, where j is a real number of $0 \leqq j \leqq 2$;

and under such conditions that $Pw>Pe$, and $0<Pb \leqq 0.5Pe$, provided that when $i=m$, $0<Pb \leqq Pe$.

12. (Amended) An optical recording method, which comprises carrying out mark length modulation recording and erasing on the optical information recording medium as defined in Claim [1, 2 or] 5 by modulating a laser power among at least 3 power levels, wherein to form inter-mark portions, erasing power Pe capable of recrystallizing amorphous mark portions is applied, and to form mark portions having a length nT where T is a clock period and n is an integer of at least 2, writing power Pw and bias power Pb are applied in such a manner that when the time for applying writing power Pw is represented by $\alpha_1 T$, $\alpha_2 T$, ..., $\alpha_m T$, and the time for applying bias power Pb is represented by $\beta_1 T$, $\beta_2 T$, ..., $\beta_m T$, the laser application period is divided into m pulses in a sequence of $\alpha_1 T$, $\beta_1 T$, $\alpha_2 T$, $\beta_2 T$, ..., $\alpha_m T$, $\beta_m T$ to satisfy the following formulae:

when $2 \leqq i \leqq m-1$, $\alpha_i \leqq \beta_i$;

minimum value of n; and

$\alpha_1+\beta_1+ \ldots +\alpha_m+\beta_m$ = n-j, where j is a real number of $0 \leqq j \leqq 2$;

and under such conditions that $Pw>Pe$, and $0<Pb \leqq 0.5Pe$, provided that when i=m, $0<Pb \leqq Pe$.

--22. (New)--